ENGINEERING GRADUATE COMMUNITY COUNCIL

3RD *Engineering Three-Minute Thesis*

FEBRUARY 25, 2022

E3MT COMPETITION

HANDBOOK

AGENDA

THE ENGINEERING ADVANCEMENT TRUST

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Health Science, 1150
10 AM - 14 PM

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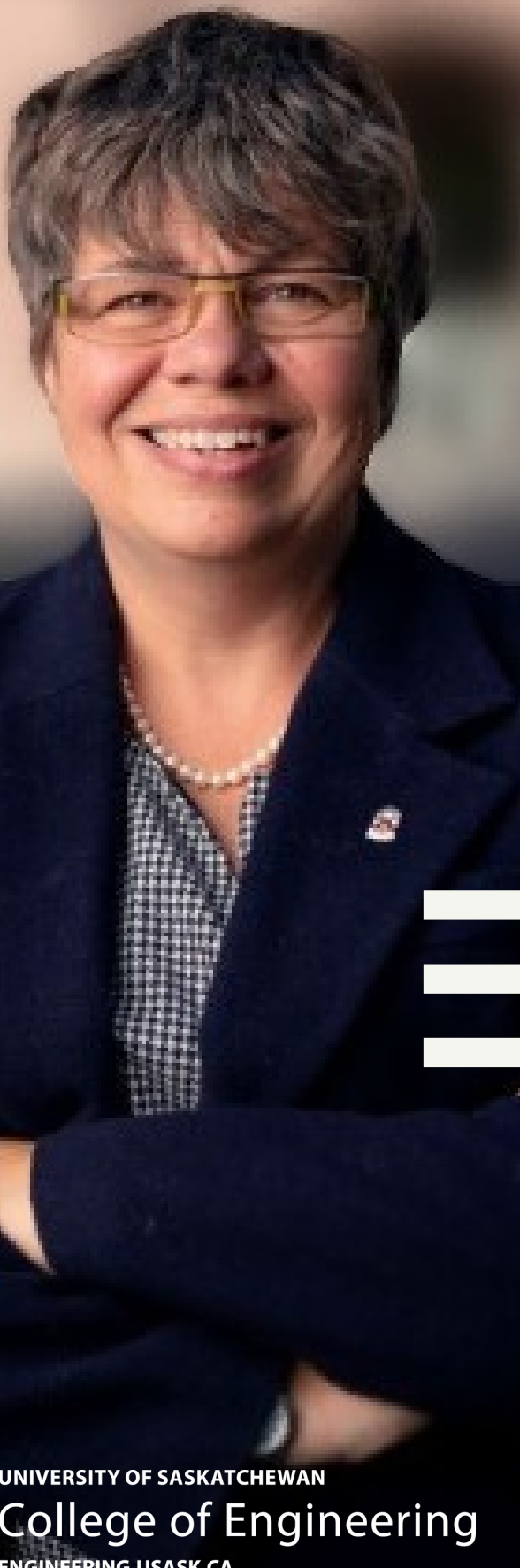
WELCOME MESSAGE
DEAN SUZANNE KRESTA



Welcome to the 2022 Engineering Three Minute Thesis Competition. The Engineering Graduate Community Council has been working hard to bring this event to you in a hybrid format, allowing participants to gain valuable presentation experience from presenting their research work in-person while audience members watch the competition virtually.

We are living in a remarkable time of creativity, resilience, and rapid response. As we learn new ways of staying connected and working together, we are sharpening the skills that will be needed to build our next century. That's why participating in the E3MT competition is especially valuable. The Three Minute Thesis format challenges you to present your research in a way that's accessible to a general audience, making it a valuable experience to develop your communication skills to share your research with the world around you.

Thank you to the student organizers for all of your hard work in making this event a reality, especially all the steps taken to host the competition in a hybrid format. We're proud of you for pulling it off, and wish you the very best for the competition.

Best of luck to all participants!

Suzanne Kresta
Dean and Professor
College of Engineering

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WELCOME MESSAGE

ASSOCIATE DEAN, PROF. JAFAR SOLTAN

I am pleased to welcome you to the third annual Engineering Three Minute Thesis Competition (E3MT), organized by the Engineering Graduate Community Council (EGCC). Students all over the globe have found 3MT competitions to be both challenging and rewarding. The College of Engineering is proud to support this competition organized especially for engineering students. I look forward to watching the presentations and I wish you the best of luck.

I would like to thank the EGCC for organizing this important event. I would also like to extend a special thank you to the Engineering Advancement Trust (EAT) for their generous support that allowed the EGCC to elevate this event for students, alumni, and the community.

I hope that your E3MT experience will be challenging, enjoyable and rewarding. Past participants of E3MT have gone on to excellent performances in the university and regional 3MT competitions, so dream big and keep thinking about where your research can take you next.

Jafar Soltan
Acting Associate Dean Graduate Studies and Strategic Projects
Professor of Chemical and Biological Engineering
College of Engineering

COMPETITION time

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WELCOME MESSAGE

EGCC PRESIDENT, ABBAS FAZEL

Welcome, all graduate students!

On behalf of the Engineering Graduate Community Council (EGCC), I would like to share my warm welcome to all participants in the 3rd Engineering Three-Minute Thesis Competition on Feb. 25, 2022!

WE ARE PROUD OF YOU!

The EGCC team worked hard to prepare everything like a professional model after the COVID constraints. This year, we designed the event in a hybrid model for your convenience.

I hope you all enjoy the E3MT competition, and I believe you all will do an excellent job for our Canadian Society and Engineering the World Needs!

Abbas Fazel
EGCC President
Ph.D. student in Biomedical Engineering
College of Engineering

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Image Credit: Stobbephoto
College of Engineering

EGCC EXECUTIVES MESSAGE 2021-2022

Aman Samson Mogos

Vice President, Academic
Electrical Engineering

Emily Cline

Vice President, Students Affairs
Civil Engineering

Divyapratim Das

Vice President, Finance
Chemical Engineering

Justin Tricsli

Vice President, Communication
Mechanical Engineering

Welcome all participants to the 3rd annual Engineering 3-Minute Thesis Competition (E3MT). The EGCC executive team and department representatives would like to congratulate all participants for taking this opportunity to present your research to us! You all have worked so hard, so take a moment to pat yourselves on the back and reflect on all that you have accomplished to date.

We are looking forward to hearing what everyone has been working on. It's events like these that bring us together as a community, no matter how hard this pandemic has tried to keep us apart. Your hard work and enthusiasm will take you far beyond the walls of this university, so whether you have one year left here or four, keep on persevering and shoot for the stars.

MEET THE JUDGES

Margaret Kuzyk, P.Eng., FEC, FGC(Hon.), FCSSE

Margaret Kuzyk is a retired professional engineer from Saskatoon. She holds a diploma in architectural technology from SAIT in Calgary and a degree in civil engineering from USask. She worked primarily for municipal, provincial and federal governments, in the areas of building codes and regulation, project management, and facility planning, and served as the Chief Building Official for the Province of Saskatchewan. Margaret's involvement in APEGS includes being a life member, past president, former USask Senate representative and award winner. She is a Fellow of Engineers Canada, a Fellow of Geoscientists Canada (Hon.), a life member of the Saskatchewan Building Officials Association, and winner of a codes-related award from the National Research Council of Canada. Margaret has served the community as a public representative on the Council of the College of Physicians and Surgeons, and a patient-family partner for the Saskatchewan Health Authority. Margaret has served as chair of the USask Engineering Advancement Trust and a warden for the Engineers' Iron Ring Camps in Regina and Saskatoon, and is currently an alternate warden for the Camps' national corporation.

Christy Miller, BComm, MPNL

Christy Miller is the Director of Alumni & Donor Engagement and the Executive Director of the Alumni Association at the University of Saskatchewan. A proud USask graduate, Christy's work in higher education, advertising and the nonprofit sector took her across Canada and into the US, eventually leading her back to Saskatchewan to pursue a career at her alma mater that has spanned across communications, fundraising and alumni relations over the past 16 years. Together with her team, Christy helps ensure that individuals experience high-quality interactions with the University of Saskatchewan fostering meaningful, long-term engagement, building relationships and promoting investment in the university.

Zsuzsa Papp, PhD

Dr. Zsuzsa Papp is the Saskatchewan representative for Mitacs, a national not-for-profit network and funding agency. She facilitates applied research collaborations across all disciplines: meeting professors, companies, students, and postdocs about their projects and needs, helping with proposal drafts and promoting programs. Prior to joining Mitacs she was a project manager at Environment and Climate Change Canada, and before that conducted postdoctoral research and extensively published in the fields of life and environmental sciences. She is a PhD of the U of S. Besides being committed to lifelong learning in sciences, her personal interests include arts and culture, science education and outreach, habitat/wildlife conservation, gardening, languages, sports, and outdoor activities.

Dr Sumith Kahanda, Ph.D., P.Eng., PMP, CSSGB

Dr Sumith has graduated with PhD in Agriculture and Bioresources Engineering from the College of Engineering, University of Saskatchewan, M.Sc. in Water Resources Engineering from Katholieke University, Belgium and B.Sc. in Agriculture (Major: Agriculture Engineering) from University of Peradeniya, Sri Lanka. Dr Sumith is currently working as a Project Manager at SaskWater. He has over 15 years of industry experience, as an Engineer, Project Manager and a Leader. He is the current President, Saskatoon Engineering Society (SES), and Past President, American Society for Quality (ASQ), Saskatchewan Chapter.

Tate N. Cao, Ph.D. P. Eng, MBA

Dr. Tate Cao was born and raised in China. Now he lives in Saskatoon Canada. Most recently, He is an Assistant Professor at the University of Saskatchewan, and the La Borde Chair in Engineering Entrepreneurship. His goal is to develop the entrepreneurship education for the students here, so the brilliant engineers do not have to make the same mistakes as he has done. Up to now, he has experience as engineer, evangelist, patent attorney, project manager, entrepreneur before becoming a professor.

Mohsen Shakouri, Ph.D.

Dr. Mohsen Shakouri is a staff scientist and the beamline responsible of the Soft X-ray Microcharacterization beamline (SXRMB) at the CLS. Mohsen has more than 10 years of professional experience in developing and synthesizing structured nanomaterials catalysts, designing and fabricating lab-scale test set-ups to evaluate catalyst performance, and handling various characterization and analytical instruments. He is also experienced in investigating materials' chemical structures using X-ray spectroscopy, microscopy and crystallography techniques. Mohsen likes to conduct hands-on experimental work, from designing the experiments, building the setups, to completing the runs and interpreting the results. Mohsen obtained his PhD and MSc degrees in the Chemical and Biological Engineering Department at the University of Saskatchewan in 2018 and 2012, respectively, and his BSc. in Chemical and Petroleum Engineering at the Sharif University of Technology in 2008.

MEET THE EGCC TEAM 2021-2022

Abbas Fazel

President
Biomedical Engineering

Aman Samson Mogos

Vice President, Academic
Electrical Engineering

Emily Cline

Vice President, Students Affairs
Civil Engineering

Divyapratim Das

Vice President, Finance
Chemical Engineering

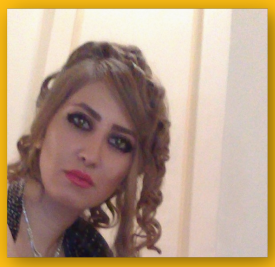
Justin Tricsli
Vice President, Communication
Mechanical Engineering

Emilia Olivares Conraud

Saeideh Razavi

Khaled Zoroufchi Benis

Shahabodin Afrasiabi



Simin Keykhosravi

Sandhya Chandran

Tochukwu Bright Ezechukwu

Behdad Saed

Fatima Abed Al Sater

Tahereh Najib

Shahab Minaei

Onu Onu Olughu

Chidum Ezegwui

Ninu Kallingal Mohandas.

Toney Jack

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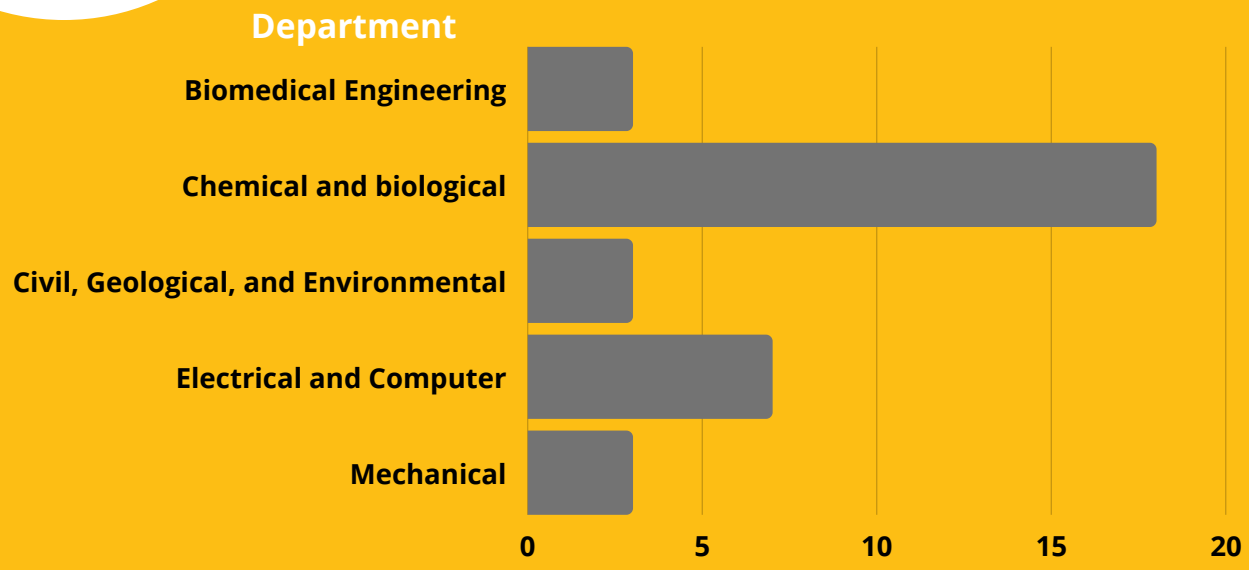

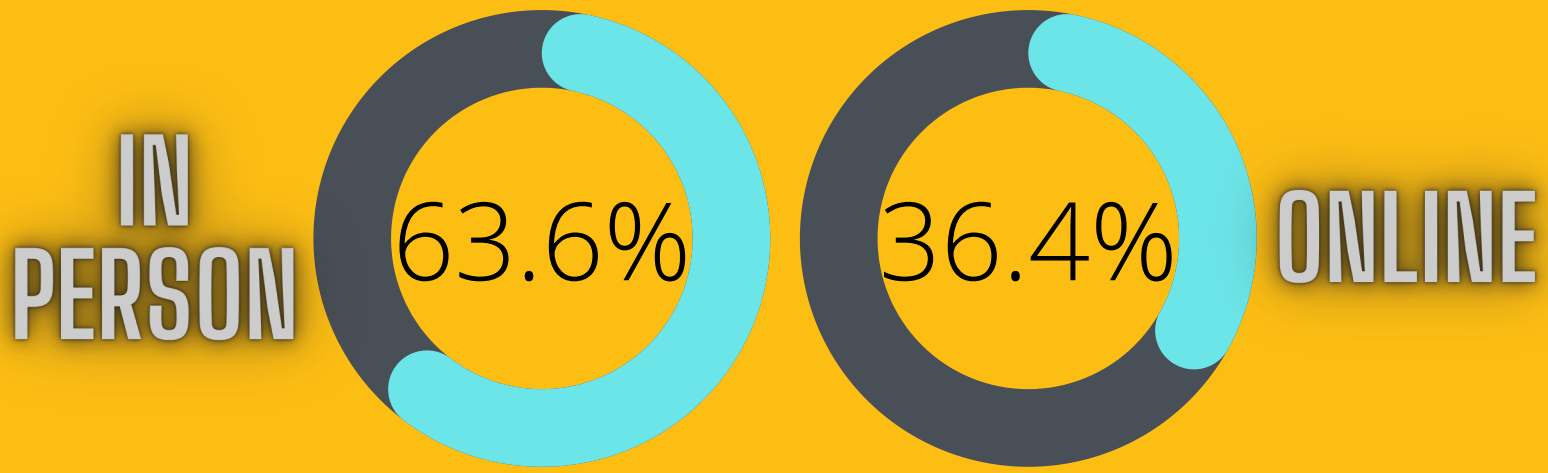

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AGENDA

9:30 – 10:00 AM	**Guest arrival**
10:00 AM	**National Anthem / Teaser**
10:05 AM	**Welcoming and Introduction with 3MT competition**
10:10 AM	**Dean Suzanne Kresta Welcoming Message**
10:20 AM	**EGCC President Welcome Message**

#	TIME	Name, **Surname**	Title
In-Person session			
1	**10:30**	Alec Roger **Vista**	Determination of Water Vapor Sorption Isotherms of post-harvest Cannabis
2	**10:35**	Amir **Noori**	Plant Protein De-flavoring (PPD)
3	**10:40**	Arash **Yahyazadeh**	Conversion of Agricultural Wastes to Fuels and Chemicals
4	**10:45**	Christopher **Elash**	Radiation Hardened Computer Cores
5	**10:50**	Priyanka **Tirumareddy**	Upgradation of bio-crude obtained from hydrothermal liquefaction of lignocellulosic biomass via hydrodeoxygenation
6	**10:55**	Hamed **Alizadeh Sardroud**	3D-Bioprinting may treat Osteoarthritis!
7	**11:00**	Li **Zhou**	Crude vegetable oil refining
8	**11:05**	Tumpa **Sarker**	Production of High-Quality Fuel Pellets from Biomass Residue
9	**11:10**	Mohie Al Dine **Chaaban**	Using Alternating High-Shear and Rest-Time Environments to Examine the Build-up of Localized Yield Stress in Mineral Slurries of Nickel Laterite
10	**11:15**	Alivia **Mukherjee**	Can Caffeine contribute towards climate change: Yes or No!!
11	**11:20**	Ahmad **Karimi**	Microfluidic Fuel Cell
12	**11:25**	Julio **Torres-Tello**	Feature Selection in Deep Learning Models
13	**11:30**	Sana **Daneshamouz**	Torrefaction
14	**11:35**	Mohammadreza **Behjoee**	Performance of Pelletized Biosorbents for Purification of Fuel Vapors/Gases
15	**11:40**	Sarah **Allahmoradi**	Application of AI in Power System
16	**11:45**	Sima **Zeinali Danalou**	Using Synchrotron X-ray CT to Study Pharmaceutical Powders Mixing Quality and Dynamic Wet Granulation
17	**11:50**	Toan **Truong**	Failure Resistance of Additively Manufactured Maraging Steel M350 Under Dynamic Impact Loading
18	**11:55**	Mohammad Amin **Zamiri**	Microwave-assisted production of porous carbon materials
19	**12:00**	Amin **Babaeighazvini**	Cellulose based materials and their application
20	**12:05**	Behdad **Saed**	Water-Energy-Food Nexus in the Canadian Prairies
21	**12:10**	Shahab **Minaei**	Studying the fate and transport of chemicals of emerging concern through the wastewater treatment plant
Break (20 Minutes)			

AGENDA

Online Session			
#	**TIME**	Name, **Surname**	**Title**
22	**12:35**	Zachary **Lang**	Diamond Recovery Using Sensor Based Sorting
23	**12:40**	Pezhman **Zolfaghari Didani**	Ozone-based disinfection platform for the indoor air conditioning systems
24	**12:45**	Zongru **Li**	Radiation tolerant integrated circuits
25	**12:50**	Reza **Khatib Zadeh Davani**	Improvement of X70 pipeline steel properties for application in low temperature environment
26	**12:55**	Behzad **Hasanshahi**	A Systematic Approach to Design Soft Mechanisms Based on Topology Optimization
27	**13:00**	Ninu **Kallingal Mohandas**	Proteins from Canola - Technoeconomic Analysis
28	**13:05**	Aiman **Siddiqui**	A solution enabling the future smart and time-critical applications
29	**13:10**	Shiva **Mostafavi**	Changes in meniscus position and composition under load
30	**13:15**	Amir **Payan**	Photocatalytic oxidation of VOCs
31	**13:20**	Seyed shahim **vedaei**	The wireless capsule endoscopy localization inside the human body
32	**13:25**	Arash **Farahdel**	Event-triggered Wildfire Surveillance
33	**13:30**	Mohammad Majid **Abedi**	Evaluating subjective road safety using crowdsourced (social media) data

Closing ceremony	
13:35 PM	**Break out session for judging and Audience choice election**
13:40 PM	**College Associate Dean / Dr. Soltan Speech**
13:50 PM	**SaskPower / Rosanah (Rose) Santos**
14:00 PM	**SIGMA Program Introduction**
14:10 PM	**Winners announcement**
14:20 PM	**Swag bag and Lunch pick-up**

AND...!!

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